Amendments to the Claims

This listing of claims will replace all prior versions and listings of claims in the above-identified application.

Listing of Claims

1. (Currently Amended) In a RAID data storage system comprising a stripe, wherein the stripe comprises stripe units $B_1 - B_{max}$, a method comprising:

    receiving a request to read data from stripe unit B_x, wherein B_x is one of stripe units $B_1 - B_{max}$, wherein the request is received from a computer system in data communication with the RAID data storage system;

    reading stripe parity P corresponding to stripe units $B_1 - B_{max}$ in response to receiving the request;

    generating new stripe parity P_{new} corresponding to stripe units $B_1 - B_{max}$ as a function of data of each of the stripe units $B_1 - B_{max}$;

    comparing the new stripe parity P_{new} with the stripe parity P;

    returning stripe unit B_x data to the computer system if the stripe parity P compares equally to the new stripe parity P_{new}.

2. (Previously Presented) The method of claim 1 wherein the RAID data storage system comprises a parity RAID data storage system.

3. (Previously Presented) The method of claim 2 wherein the parity RAID data storage system comprises a RAID-5 data storage system.

4. (Cancelled).

5. (Currently Amended) ~~The method of claim 1 further comprising:~~ In a RAID data storage system comprising a stripe, wherein the stripe comprises stripe units $B_1 - B_{max}$, a method comprising:

receiving a request to read data from stripe unit B_x, wherein B_x is one of stripe units $B_1 - B_{max}$, wherein the request is received from a computer system in data communication with the RAID data storage system;

reading stripe parity P corresponding to stripe units $B_1 - B_{max}$ in response to receiving the request;

generating new stripe parity P_{new} corresponding to stripe units $B_1 - B_{max}$ as a function of data of each of the stripe units $B_1 - B_{max}$;

comparing the new stripe parity P_{new} with the stripe parity P;

if stripe parity P does not compare equally to new stripe parity P_{new}:

reading checksum CS data from memory, wherein the checksum CS data corresponds to stripe units $B_1 - B_{max}$;

(a) generating new data for stripe unit B_y, one of the stripe units $B_1 - B_{max}$ as a function of checksum CS data and data of stripe units $B_1 - B_{max}$ other than stripe unit B_y;

(b) generating new checksum CS_{new} data as a function of the new data for stripe unit B_y and data of stripe units $B_1 - B_{max}$ other than stripe unit B_y;

(c) comparing new checksum CS_{new} data with checksum CS data;

(d) overwriting data of stripe unit B_y with the new data of stripe unit B_y if new checksum CS_{new} data compares equally to checksum CS data.

6. (Previously Presented) The method of claim 5 further comprising changing the value of variable y and repeating (a) – (d) if new checksum CS_{new} data does not compare equally with checksum CS data.

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7.   (Currently Amended) A computer readable medium storing instructions executable by a first computer system in a RAID data storage system, wherein the RAID data storage system comprises a stripe, wherein the stripe comprises stripe units $B_1 - B_{max}$, wherein the first computer system performs a method in response to executing instructions stored on the computer readable medium, the method comprising:

> reading stripe parity P corresponding to stripe units $B_1 - B_{max}$ in response to receiving a request to read data from stripe unit B_x, wherein B_x is one of $B_1 - B_{max}$, wherein the request is received from a second computer system in data communication with the first computer system;

> generating new stripe priority P_{new} corresponding to stripe units $B_1 - B_{max}$ as a function of data of each of the stripe units $B_1 - B_{max}$;

> comparing the new stripe parity P_{new} with the stripe parity P;

> returning stripe unit B_x data to the second computer system if the stripe parity P compares equally to the new stripe parity P_{new}.

8.   (Previously Presented) The computer readable medium of claim 7 wherein the RAID data storage system comprises a parity RAID data storage system.

9.   (Previously Presented) The computer readable medium of claim 8 wherein the parity RAID data storage system comprises a RAID-5 data storage system.

10.   (Cancelled)

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11. (Currently Amended) ~~The computer readable medium of claim 7, wherein the method further comprises:~~ A computer readable medium storing instructions executable by a first computer system in a RAID data storage system, wherein the RAID data storage system comprises a stripe, wherein the stripe comprises stripe units $B_1 - B_{max}$, wherein the first computer system performs a method in response to executing instructions stored on the computer readable medium, the method comprising:

    reading stripe parity P corresponding to stripe units $B_1 - B_{max}$ in response to receiving a request to read data from stripe unit B_x, wherein B_x is one of $B_1 - B_{max}$, wherein the request is received from a second computer system in data communication with the first computer system;

    generating new stripe priority P_{new} corresponding to stripe units $B_1 - B_{max}$ as a function of data of each of the stripe units $B_1 - B_{max}$;

    comparing the new stripe parity P_{new} with the stripe parity P;

    if stripe parity P does not compare equally to new stripe parity P_{new}:

        reading checksum CS data corresponding to stripe units $B_1 - B_{max}$;

        (a) generating new data for B_y, one of the stripe units $B_1 - B_{max}$, as a function of checksum CS data and data of stripe units $B_1 - B_{max}$ other than stripe unit B_y;

        (b) generating new checksum CS_{new} data as a function of the new data for stripe unit B_y and data of stripe units $B_1 - B_{max}$ other than stripe unit B_y;

        (c) comparing new checksum CS_{new} data with checksum CS data;

        (d) overwriting data of stripe unit B_y with the new data of stripe unit B_y if new checksum CS_{new} data compares equally to checksum CS data.

12. (Previously Presented) The computer readable medium of claim 11 wherein the method further comprises changing the value of y and repeating (a) – (d) if new checksum CS_{new} data does not compare equally with checksum CS data.

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13. – 15. (Cancelled)

16.   (New) The method of claim 5 wherein the RAID data storage system comprises a parity RAID data storage system.

17.   (New) The method of claim 16 wherein the parity RAID data storage system comprises a RAID-5 data storage system.

18.   (New) The method of claim 5 further comprising returning stripe unit B_x data to the computer system if the stripe parity P compares equally to the new stripe parity P_{new}.

19.   (New) The computer readable medium of claim 11 wherein the RAID data storage system comprises a parity RAID data storage system.

20.   (New) The computer readable medium of claim 19 wherein the parity RAID data storage system comprises a RAID-5 data storage system.

21.   (New) The computer readable medium of claim 11 wherein the method further comprises returning stripe unit B_x data to the second computer system if the stripe parity P compares equally to the new stripe parity P_{new}.